Amendments to the claims:

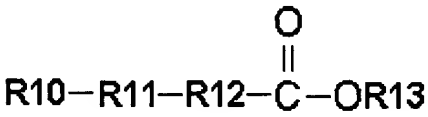
This listing of claims will replace all prior versions, and listings, of the claims in this application.

Listing of claims:

1. (Currently Amended) A method of inducing production of isoflavones in a plant comprising:

applying to the surface of at least part of a plant, which plant is capable of producing an isoflavone, a biologically effective amount of a composition comprising a nuclear receptor ligand, wherein said nuclear receptor ligand is a peroxisome proliferator having structure V below~~;~~:

V



~~Wherein~~ wherein R10 is an aromatic ring or rings, or a substituted aromatic ring or rings,

R11 is an O or S,

R12 is a branched ~~or linear~~ aliphatic chain comprising ~~1-8 carbons~~ from 1 to 8 carbon atoms, and

R13 is a hydrogen or an aliphatic chain comprising from 1 to 5 carbon atoms.

2. (Withdrawn) The method of claim 1 wherein the nuclear receptor ligand is a steroid.

3. (Withdrawn) The method of claim 2 wherein the steroid is selected from the group consisting of 17-beta-estradiol, estrone, estriol, ergosterol, zearalenorie, aldosterone,

androsterone, progesterone, pregnenolone, dexamethasone, cortisone, hydrocortisone, and combinations thereof.

4. (Withdrawn) The method of claim 1 wherein the nuclear receptor ligand is a phenolic compound.

5. (Withdrawn) The method of claim 4 wherein the phenolic compound is selected from the group consisting of genistein, daidzein, and coumesterol.

6. (Withdrawn) The method of claim 4 wherein the phenolic compound is an estrogen agonist.

7. (Withdrawn) The method of claim 6 wherein the estrogen agonist is diethylstilbestrol, dienestrol or hexestrol.

8. (Withdrawn) The method of claim 1 wherein the nuclear receptor ligand is a long chain fatty acid.

9. (Withdrawn) The method of claim 8 wherein the long chain fatty acid is selected from the group consisting of arachidonic acid, linoleic acid, docosahexanoic acid, eicosapentaenoic acid, pretroselenic acid, oleic acid and elaidic acid.

10. (Withdrawn) The method of claim 1 wherein the nuclear receptor ligand is a peroxisome proliferator.

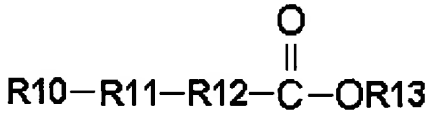
10. (Canceled)

11. (Currently Amended) The method of claim 1, wherein the peroxisome proliferator is ~~selected~~ chosen from ~~the group consisting of~~ clofibric acid, ciprofibrate, and 2-(o-chlorophenoxy)-2-methylpropionic acid (CPMPA).

12. (Currently Amended) A method of inducing disease resistance in a plant comprising applying to the surface of at least part of a plant, which plant is capable of producing an isoflavone, a biologically effective amount of a composition comprising:

a) a nuclear receptor ligand, wherein said nuclear receptor ligand is a peroxisome proliferator having structure V below,

V



~~Wherein~~ wherein R10 is an aromatic ring or rings, or a substituted aromatic ring or rings,

R11 is an O or S,

R12 is a branched ~~or linear~~ aliphatic chain comprising ~~1-8 carbons~~ from 1 to 8 carbon atoms,

R13 is a hydrogen or an aliphatic chain comprising from 1 to 5 carbon atoms; and

b) one or more compounds that i) enhance the release of isoflavones from ~~a~~ sugar ~~conjugate~~ conjugates, ii) enhance the incorporation of aglycones into glyceollin, or iii) enhance the release of isoflavones from ~~a~~ sugar ~~conjugate~~ conjugates and incorporation of aglycones into glyceollin.

13. (Withdrawn) The method of claim 12 wherein the enhancing compound is orthovanadate, rose bengal, or a tetrazolium redox dye.

14. (Currently Amended) The method of claim 12, wherein the enhancing compound is a copper salt or a fragment of the naturally ~~occuring~~ occurring cell wall glucan from ~~the pathogen~~ *Phytophthora sojae*.

15. (Currently Amended) The method of claim 1, wherein the composition further comprises one or more compounds ~~selected~~ chosen from ~~the group consisting of a~~ phytologically acceptable ~~diluent or adjuvant~~ diluents and adjuvants.

16. (Currently Amended) The method of claim 1, wherein the composition further comprises one or more active chemicals ~~selected~~ chosen from ~~the group consisting of a herbicide~~ herbicides, ~~an insecticide~~ insecticides, ~~a fungicide~~ fungicides, and ~~a bacteriocide~~ bacteriocides.

17. (Currently Amended) The method of claim 1, wherein the composition is applied to the plant stem, the plant root, the plant leaf, or combinations thereof.

18. (Currently Amended) The method of claim 1, wherein the composition is applied to a seed or a seedling.

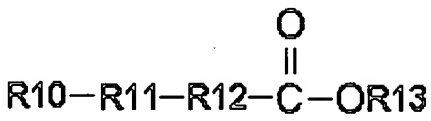
19. (Currently Amended) The method of claim 1, wherein the composition is applied to a legume ~~selected~~ chosen from ~~the group consisting of~~ alfalfa, lima bean, pinto bean, chickpea, peanuts, and soybean.

20. (Currently Amended) The method of claim 19, wherein the legume is soybean.

21. (Currently Amended) A composition for inducing disease resistance in a plant or seed, comprising:

(a) one or more nuclear receptor ligands~~, wherein said nuclear receptor ligands are peroxisome proliferators~~ having structure V below~~;~~:

V



~~Wherein~~ wherein R10 is an aromatic ring or rings, or a substituted aromatic ring or rings,

R11 is an O or S,

R12 is a branched ~~or linear~~ aliphatic chain comprising ~~1-8 carbons~~ from 1 to 8 carbon atoms,

R13 is a hydrogen or an aliphatic chain comprising from 1 to 5 carbon atoms; and

(b) one or more enhancing compounds ~~which~~ that i) enhance the release of isoflavones from ~~a~~ sugar ~~conjugate~~ conjugates in the plant or seed, ii) enhance incorporation of aglycones in the plant or seed into glyceollin, or iii) enhance release of isoflavones from ~~a~~ sugar ~~conjugate~~ conjugates in the plant or seed and incorporation of aglycones in the plant or seed into glyceollin.

22. (Withdrawn) The composition of claim 21 wherein the enhancing compound is orthovanadate, rose bengal, or a tetrazolium redox dye.

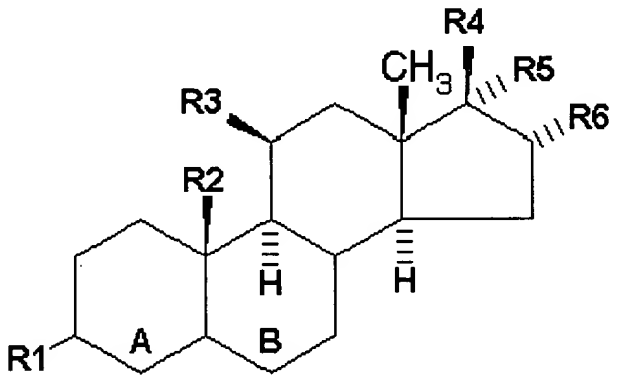
23. (Currently Amended) The composition of claim 21, wherein the enhancing compound is a copper salt or a fragment of the naturally occuring cell wall glucan from ~~the pathogen~~ *Phytophthora sojae.*

24. (Withdrawn) The method of claim 12 wherein the enhancing compound is an ion effector or generates reactive oxygen intermediates.

25. (Withdrawn) The method of claim 24 wherein the enhancing compound is orthovanadate.

26. (Withdrawn) The method of claim 24 wherein the enhancing compound is rose bengal or a tetrazolium redox dye.

27. (Withdrawn) A method of inducing production of isoflavones in a plant comprising applying to the surface of at least part of a plant capable of producing an isoflavone, a biologically effective amount of a composition comprising a steroid having structure I as below,

I 

Wherein ring

wherein

R1 = OH or O,

R2 = H or CH_3,

R3 = O, OH, or H,

R4 = O, OH, H, CO_2H, $C(O)CH_2OH$, or $C(O)CH_3$,

R5 = OH or H, and

R6 = CH_3, OH or H.

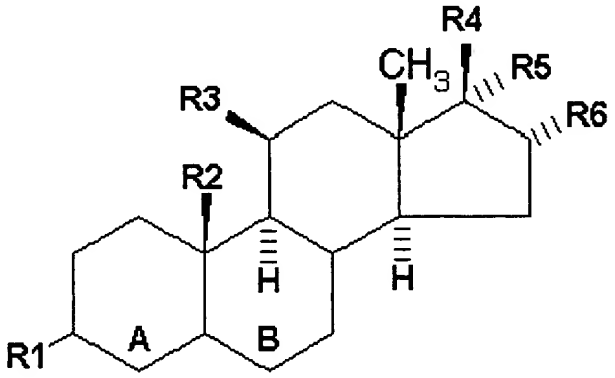
28. (Withdrawn) The method of claim 27 wherein the steroid is selected from the group consisting of 17-beta-estradiol, estrone, estriol, ergosterol, zearalenorie, aldosterone,

androsterone, progesterone, pregnenolone, dexamethasone, cortisone, hydrocortisone, and combinations thereof.

29. (Withdrawn) A method of inducing disease resistance in a plant comprising:

a) applying to the surface of at least part of a plant capable of producing an isoflavone, a biologically effective amount of a composition comprising a steroid having structure I as below,

I



Wherein rings A, B have the same or different degrees of saturation,

wherein

R1 = OH or O,

R2 = H or CH_3,

R3 = O, OH, or H,

R4 = O, OH, H, CO_2H, $C(O)CH_2OH$, or $C(O)CH_3$,

R5 = OH or H, and

R6 = CH_3, OH or H,

and

b) one or more compounds that enhance the release of isoflavones from a sugar conjugate, enhance the incorporation of aglycones into glyceollin, or enhance the release of isoflavones from a sugar conjugate and incorporation of aglycones into glyceollin.

30. (Withdrawn) The method of claim 29 wherein the enhancing compound is an ion effector or an reactive oxygen intermediate generator.

31. (Withdrawn) The method of claim 30 wherein the enhancing compound is orthovanadate.

32. (Withdrawn) The method of claim 30 wherein the enhancing compound is rose bengal or a tetrazolium redox dye.

33. (Withdrawn) The method of claim 29 wherein the enhancing compound is a copper salt or a fragment of a cell wall glucan from *Phytophthora sojae.*

34. (Withdrawn) The method of claim 29 wherein the composition is applied to a legume selected from the group consisting of alfalfa, lima bean, pinto bean, chickpea, peanuts, and soybean.

35. (Withdrawn) The composition of claim 21 wherein the enhancing compound is an ion effector or reactive oxygen intermediate generator.

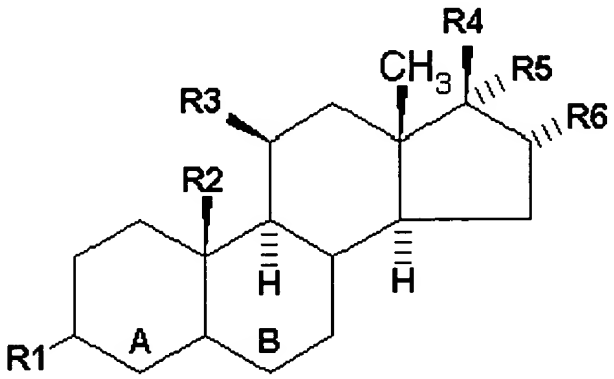
36. (Withdrawn) The composition of claim 35 wherein the enhancing compound is orthovanadate.

37. (Withdrawn) The composition of claim 35 wherein the enhancing compound is rose bengal or a tetrazolium redox dye.

38. (Withdrawn) A composition for inducing disease resistance in a plant or seed, comprising:

a) one or more nuclear receptor ligands comprising a steroid having structure I as below,

I



Wherein rings A, B have the same or different degrees of saturation,

wherein

R1 = OH or O,

R2 = H or CH_3,

R3 = O, OH, or H,

R4 = O, OH, H or CO_2H, $C(O)CH_2OH$ or $C(O)CH_3$

R5 = OH or H, and

R6 = CH_3, OH or H; and

(b) one or more compounds which enhance the release of isoflavones from a sugar conjugate, enhance incorporation of aglycones into glyceollin, or enhance release of isoflavones from a sugar conjugate and incorporation of aglycones into glyceollin.

39. (Withdrawn) The composition of claim 38 wherein the enhancing compound is an ion effector or reactive oxygen intermediate generator.

40. (Withdrawn) The composition of claim 39 wherein the enhancing compound is orthovanadate.

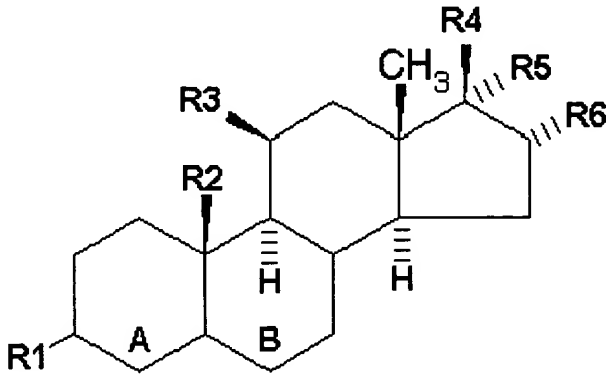
41. (Withdrawn) The composition of claim 39 wherein the enhancing compound is rose bengal or a tetrazolium redox dye.

42. (Withdrawn) The composition of claim 38 wherein the enhancing compound is a copper salt or a fragment of a cell wall glucan from *Phytophthora sojae*.

43. (Withdrawn) A composition for inducing disease resistance in a plant or seed, comprising:

a) one or more nuclear receptor ligands comprising a steroid having structure I as below,

I



Wherein rings A, B have the same or different degrees of saturation,

wherein

R1 = OH or O,

R2 = H or CH_3,

R3 = O, OH, or H,

R4 = O, OH, H or CO_2H, $C(O)CH_2OH$ or $C(O)CH_3$

R5 = OH or H, and

R6 = CH_3, OH or H; and

(b) orthovanadate.